CLAIMS

1. A method for controlling light being emitted from a light-emitting system comprising a plurality of light emitting diodes, LEDs, said method comprising controlling at least all of the following parameters: the temperature of the surroundings of each of the LEDs, the luminous flux of each of the LEDs, and the electrical power being supplied to each of the LEDs, and where controlling the surrounding temperature establishes a means for controlling the luminous intensity being emitted from the system, and thus controlling the luminous flux of the LEDs, and establishes a means for not decreasing the lifetime of the LEDs by the current of the electrical power not being increased during the lifetime of the LEDs.

2. A system comprising a plurality of LEDs for producing light, wherein each or sections of the LEDs are capable of emitting light at different wavelengths and said system further comprising means for controlling the luminous flux of each or sections of the LEDs separately, and said system further comprising means for controlling the luminous flux of the overall system comprising a plurality of LEDs by means of both controlling the surrounding temperature, either of each of the LEDs or commonly of all of the LEDs, and by means of controlling the electrical power being supplied to each of the LEDs, and where the means for controlling the electrical power consists in not increasing the current during the lifetime of the LEDs for thereby not decreasing the lifetime of the LEDs.

3. An LED system according to claim 2, where each of the diodes are capable of emitting light at different wavelengths, the wavelengths being: a first wavelength in the range of visible blue light, preferably in the range of 430 nm to 490 nm, a second wavelength in the range of visible green light, preferably in the range of 530 nm to 565 nm, and a third wavelength in the range of visible red light, preferably in the range of 605 nm to 630 nm.

4. An LED system according to claim 2 or claim 3, wherein the controlling means is a power supply, and wherein luminous intensity of the system is controlled by said power supply by adjusting the one or more of the parameters amperage, voltage or duty factor of the electrical power supplied.

5. An LED system according to any of claims 2-4, wherein the controlling means is a power supply, and wherein luminous intensity of the system is controlled by said power supply by introducing a pulse width from the electrical power supplied to the LEDs.

6. A system according to any of claims 2-5 and comprising a plurality of LEDs for producing light, wherein each or sections of the LEDs are capable of emitting light at

different wavelengths and said system comprising means for measuring the junction temperature of said LEDs, and said system further comprising means for controlling the junction temperature of said LEDs and wherein said measuring means is adapted for sending a temperature signal to temperature controlling means, said signal intended for being used in the control of the surrounding temperature of each or sections of the LEDs separately, and wherein the temperature controlling means is capable also of controlling the junction temperature of the LEDs.

7. An LED system according to claim 6, where each of the diodes are capable of emitting light at different wavelengths, the wavelengths being: a first wavelength in the range of visible blue light, preferably in the range of 430 nm to 490 nm, a second wavelength in the range of visible green light, preferably in the range of 530 nm to 565 nm, and a third wavelength in the range of visible red light, preferably in the range of 605 nm to 630 nm.

8. A system according to any of claims 2-7 and comprising a plurality of LEDs for producing light, wherein each or sections of the LEDs are capable of emitting light at different wavelengths and said system comprising means for measuring the electrical power applied to the LEDs, and said system further comprising means for controlling the electrical power applied to said LEDs and wherein the electrical power applying means is capable of controlling the applying a current as a square wave current, preferably a square wave current establishing overlap between a current being applied initially to one LED and a current being applied subsequently to another LED.

9. An LED system according to claim 8, where each of the diodes are capable of emitting light at different wavelengths, the wavelengths being: a first wavelength in the range of visible blue light, preferably in the range of 430 nm to 490 nm, a second wavelength in the range of visible green light, preferably in the range of 530 nm to 565 nm, and a third wavelength in the range of visible red light, preferably in the range of 605 nm to 630 nm.

10. An LED system according to any of the preceding claims, wherein said system comprises a cooling element for controlling the temperature of the surroundings of the plurality of LEDs.

11. An LED system according to claim 10, where a cool side of the element is facing an interior of a housing containing the LEDs, and where a hot side of the element is facing exterior surroundings of the housing.

12. An LED system according to claim 10 or claim 11, where the cooling element at a hot side of the element is provided with heat transfer means such as ribs in order to increase the heat transfer between the element and surroundings of the hot side.

13. An LED system according to any of claims 10-12, where the cooling element is chosen among on the following elements: a Peltier element, a heat exchanger of a compressed gas cooling system, and a flow of fluid, i.e. a gas or a liquid.

14. An LED system according to any of the preceding claims, wherein said system comprises a vacuum unit for controlling the gas pressure within a housing containing the plurality of LEDs.

15. An LED system according to any of the preceding claims, wherein said system comprises a gas unit for controlling the amount of gas contained within a housing containing the plurality of LEDs.

16. An LED system according to any of the preceding claims, wherein said system comprises a gas unit for controlling the composition of the gas contained within the housing containing the plurality of LEDs.